Saudi Electricity Company  الشركة السعودية للكهرباء

SEC DISTRIBUTION CONSTRUCTION STANDARDS

SDCS-01

Dated:



NOTES :

1. ALL DIMENSIONS ARE IN MM.
2. ROCK FILLING SHOULD BE AVOIDED & SUPPORT CLAMP TO BE USED FOR POLE ALIGNMENT.
3. COPING SHALL BE OF 500MM HEIGHT FOR VALLEY/WADI CROSSING POLES.
4. TOP FOUNDATION SURFACE SHALL BE MADE ROUGH TO HAVE A GOOD BONDING CONTACT WITH COPING, OTHERWISE BONDING AGENT SHALL BE ADDED DURING CONCRETE COPING.
5. COPING WIDTH SHALL BE 200MM FOR OC10, 300MM FOR ALL SINGLE CIRCUIT STRUCT. AND 400MM FOR OC14D. (REFER TO DIMENSIONS IN TABLES-1, 2 & 3)

CONST-DRW.01-TYPICAL FOUNDATION FOR ALL OCTAGONAL STEEL POLES

ALL DIMENSIONS ARE IN MILLIMETER

# TABLE-1

## FOUNDATION DETAILS FOR OC10, LOW VOLTAGE STRUCTURES

| FUND. TYPE | POLE TYPE | SOIL TYPE | DIAMETER FOUNDATION (mm) | DEPTH OF FOUNDATION (mm) | COPING SIZE (MM) (Width x Height) | STAY ANGLE WITH POLE (Degree) |
|---|---|---|---|---|---|---|
| 1 | INTERMEDIATE (IMP) STRUCTURE (0°–15°) | ROCK | 700 | 1,500 | 200 Dia. x 300 Ht. | N.A. |
| | | MEDIUM | 800 | 1,500 | 200 Dia. x 300 Ht. | N.A. |
| | | LOOSE | 900 | 1,500 | 200 Dia. x 300 Ht. | N.A. |
| 2 | MEDIUM ANGLE (MAP) STRUCTURE (16°–60°) | ROCK | 700 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 800 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 900 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |
| 3 | HEAVY ANGLE (HAP) STRUCTURE (61°–90°) | ROCK | 800 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 1,000 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 1,200 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |
| 4 | TERMINAL (TER) STRUCTURE | ROCK | 800 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 1,000 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 1,200 | 1,500 | 200 Dia. x 300 Ht. | 33 – 45 |

NOTES:

1. FOR ALL TYPES OF TAP-OFF STRUCTURES FOUNDATION TYPE #4 ARE APPLICABLE.
2. CONCRETE SHALL BE OF M20 MIX WITH COMPRESSIVE STRENGTH 210 Kg/Sq.cm.
3. THE TOP SURFACE CONCRETE COPING MUST BE SLOPED TO PREVENT WATER STAGNATION.
4. TOP SURFACE OF FOUNDATION MUST HAVE ROUGH SURFACE IN ORDER TO HAVE A GOOD BONDING WITH CONCRETE COPING OR BONDING AGENT MAY BE ADDED DURING CONCRETE COPING.
5. THE ABOVE FOUNDATION ARE NOT APPLICABLE FOR SELF SUPPORT STRUCTURE.
6. CONCRETE CURING MUST BE APPLIED MINIMUM 3 DAYS.
7. REFER TO THE RELEVANT TYPICAL FOUNDATION DRAWING FOR MORE CLARIFICATIONS.

# TABLE–2

## FOUNDATION DETAILS FOR OC12S, OC13S, OC14S & OC15S/D SINGLE CIRCUIT STRUCTURES

| FUND. TYPE | POLE TYPE | SOIL TYPE | DIAMETER FOUNDATION (mm) | DEPTH OF FOUNDATION (mm) | COPING SIZE (MM) (Width x Height) | STAY ANGLE WITH POLE (Degree) |
|---|---|---|---|---|---|---|
| 1 | INTERMEDIATE (IMP) STRUCTURE (0°–5°) | ROCK | 700 | 2,000 | 300 Dia. x 300 Ht. | N.A. |
| | | MEDIUM | 800 | 2,000 | 300 Dia. x 300 Ht. | N.A. |
| | | LOOSE | 800 | 2,000 | 300 Dia. x 300 Ht. | N.A. |
| 2 | LIGHT ANGLE (LAP) STRUCTURE (6°–15°) | ROCK | 800 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 900 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 1,000 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |
| 3 | MEDIUM ANGLE (MAP) STRUCTURE (16°–60°) | ROCK | 900 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 1,000 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 1,200 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |
| 4 | HEAVY ANGLE (HAP), SECTION (SEC) & TERMINAL (TER) STRUCTURES | ROCK | 1,000 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 1,200 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 1,400 | 2,000 | 300 Dia. x 300 Ht. | 33 – 45 |

NOTES:

1. FOR ALL TYPES OF COMPOSITE & TAP–OFF STRUCTURES FOUNDATION TYPE #4 ARE APPLICABLE.
2. CONCRETE SHALL BE OF M20 MIX WITH COMPRESSIVE STRENGTH 210 Kg/Sq.cm.
3. THE TOP SURFACE CONCRETE COPING MUST BE SLOPED TO PREVENT WATER STAGNATION.
4. TOP SURFACE OF FOUNDATION MUST HAVE ROUGH SURFACE IN ORDER TO HAVE A GOOD BONDING WITH CONCRETE COPING OR BONDING AGENT MAY BE ADDED DURING CONCRETE COPING.
5. THE ABOVE FOUNDATION ARE NOT APPLICABLE FOR SELF SUPPORT STRUCTURE.
6. CONCRETE CURING MUST BE APPLIED MINIMUM 3 DAYS.
7. REFER TO THE RELEVANT TYPICAL FOUNDATION DRAWING FOR MORE CLARIFICATIONS.

# TABLE–3

## FOUNDATION DETAILS FOR OC14D & OC15S/D, OC DOUBLE CIRCUIT STRUCTURE

| FUND. TYPE | POLE TYPE | SOIL TYPE | DIAMETER FOUNDATION (mm) | DEPTH OF FOUNDATION (mm) | COPING SIZE (MM) (Width x Height) | STAY ANGLE WITH POLE (Degree) |
|---|---|---|---|---|---|---|
| 1 | INTERMEDIATE (IMP) (0°–5°), OC14D (0°), OC15S/D STRUCTURES | ROCK | 900 | 2,000 | 400 Dia. x 300 Ht. | N.A. |
| | | MEDIUM | 1,000 | 2,000 | 400 Dia. x 300 Ht. | N.A. |
| | | LOOSE | 1,100 | 2,000 | 400 Dia. x 300 Ht. | N.A. |
| 2 | LIGHT ANGLE (LAP) (6°–15°), OC14D (1°–15°), OC15S/D STRUCTURES | ROCK | 1,000 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 1,100 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 1,200 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |
| 3 | MEDIUM ANGLE (MAP) (16°–60°) STRUCTURES | ROCK | 1,100 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 1,200 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 1,400 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |
| 4 | HEAVY ANGLE (HAP), SECTION (SEC), & TERMINAL (TER) STRUCTURES | ROCK | 1,200 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |
| | | MEDIUM | 1,400 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |
| | | LOOSE | 1,600 | 2,000 | 400 Dia. x 300 Ht. | 33 – 45 |

NOTES:

1. FOR ALL TYPES OF TAP–OFF STRUCTURES FOUNDATION TYPE #4 ARE APPLICABLE.
2. CONCRETE SHALL BE OF M20 MIX WITH COMPRESSIVE STRENGTH 210 Kg/Sq.cm.
3. THE TOP SURFACE CONCRETE COPING MUST BE SLOPED TO PREVENT WATER STAGNATION.
4. TOP SURFACE OF FOUNDATION MUST HAVE ROUGH SURFACE IN ORDER TO HAVE A GOOD BONDING WITH CONCRETE COPING OR BONDING AGENT MAY BE ADDED DURING CONCRETE COPING.
5. THE ABOVE FOUNDATION ARE NOT APPLICABLE FOR SELF SUPPORT STRUCTURE.
6. CONCRETE CURING MUST BE APPLIED MINIMUM 3 DAYS.
7. REFER TO THE RELEVANT TYPICAL FOUNDATION DRAWING FOR MORE CLARIFICATIONS.